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Interpretation – Application of MN State Fire Code to Existing Buildings – Fire Marshal Code Advisory Panel # 03-019-I:

A number of questions were submitted to the Fire Marshal Code Advisory Panel by Fire Protection Engineer Dr. Richard Pehrson of Futrell Fire Consult and Design. Most of these questions had to do with the effective dates and applicability of various sections of the code. Each question was handled individually.

Question #1: What is meant by “existing building” when it appears throughout the text of the MSFC (2003) - does it mean buildings constructed before October 3, 1975 (the date of the state's first fire code) or March 31, 2003 (the effective date of the 2003 MSFC)?

One of the concerns raised was that by using the definition of existing (March 31, 2003), already installed fire protection features that exceeded the requirements for existing buildings could be disconnected or rendered inoperable. As an example: hard-wired smoke detectors in a residential occupancy could be removed or disconnected and replaced with single station, battery-operated smoke detectors.

Chairman Jon Nisja indicated that this issue had been addressed in the original draft of the International Fire Code (IFC). The original IFC draft contained wording that stated “Life safety features that do not meet the requirements for new buildings but exceed the requirements for existing buildings shall not be further diminished.” This language was removed in subsequent drafts of the document and no similar wording was added during the state amendment process adopting the fire code. Without language to this effect, FMCAP members generally did not feel that they had the ability to require the installation of fire protection equipment in excess of what was required for existing buildings even though this may have been required by previous code additions.

The FMCAP concluded that the term “existing” be interpreted as defined in MSFC Section 202 as already in existence prior to the adoption of this code. Existing is therefore defined as prior to the effective date of the 2003 MSFC Question #2: Do Sections 1003 to 1009 apply retroactively to existing building, except as amended by Section 1010?

It was unanimously decided by the FMCAP that sections 1003 to 1009 apply to existing buildings except in two situations: where amended by Section 1010, or where the egress conformed to the requirements found in prior state building codes.

Question #3: MSFC Section 1008.1 requires additional egress provisions for assembly occupancies (at least 50% of the occupant load). This was not required under earlier editions of the building code. Is this intended to be applied retroactively?

The requirements for a main exit to handle 50% or more of a capacity of an assembly occupancy is a relatively new requirement in the Building code. It is believed that this requirement first showed up in the 1988 Uniform Building Code. The FMCAP agreed that most existing assembly occupancies would not have been required to meet these provisions. It was felt that this is a type of situation that the exception to MSFC Section 1010.1 was intended to address.

Question #4: When corrections are made to existing means of egress, is it appropriate to use MSFC Sections 1003 through 1009, as modified by Section 1010, or should the work be according to the building code for new construction.

The FMCAP reviewed and discussed the language in Section 1010.1. The language in this section appears fairly clear on this issue; it states that “Means of egress in existing buildings, renovations, alterations, and editions shall comply with Sections 1003 through 1009 except as amended in Section 1010.” The FMCAP recognized that this represented a departure from past practice where upgrades or improvements ordered to means of egress features were typically required to meet the new building code requirements.

Question #5: Was the intention to require enclosure of all stairways according to Section 1005.3.2 even in sprinklered buildings? Note that Section 704 would allow some unprotected vertical openings for stairways but not Section 1005.3.2.

The FMCAP reviewed the stair enclosure requirements that are found in two different sections of the MSFC. One of the sections deals with vertical opening protection is a function of fire resistance rated construction in Chapter 7. Section 704.1 allows unprotected vertical openings up to five stories in height for sprinkler buildings. The previous state fire code, the Minnesota Uniform Fire Code, in Appendix I-A, allowed unprotected vertical openings of unlimited height in a fully sprinklered buildings.

The second location that the MSFC deals with the stair enclosures is found in section 1005.3.2. This section requires that all interior exit stairs be enclosed with a number of exceptions. Exception 8 allows up to 50% of the egress stairways to be open for two stories in most occupancies.

Since the exception to MSFC Section 1010.1 allows existing means of egress components to remain as long as they comply with previous codes, the FMCAP had the opinion that unprotected vertical openings were permissible if the building were sprinklered as allowed in the previous state fire code (MUFC).

Question #6: The doors to sprinklered incidental use areas need to be smoke tight and self-closing, but what about the rest of the enclosure (walls, floors, ceiling)?

MSFC 705.3 requires a fire separation around incidental uses. Exception #3 allows sprinklers in lieu of the separations. However, exception 3 does not seem to require a physical separation but requires a self-closing or auto-closing solid wood or steel insulated door.

Section 302.1.1.1 of the Minnesota State Building code permits an automatic fire extinguishing system without a fire barrier. It requires however, that the incidental use area be separated by construction capable of resisting the passage of smoke. It goes on to state that the partition shall extend from the floor to the underside of the fire rated floor-ceiling or roof-ceiling assembly or to the underside of the floor or roof deck above. It also requires that doors shall be self-closing or automatic closing on the detection of smoke but does not specify door construction or quality.

The FMCAP discussed this issue and a number of enforcement and interpretation concerns that were related to it. One of the first problems is that this section the code appears to be more restrictive than the State Building Code. This creates enforcement problems as a condition that was allowed for new construction in the building code automatically becomes a violation of the fire code once it becomes an existing condition.

The FMCAP attempted to review this issue from a global perspective; taking into account perceived code intent, enforcement problems, and the interface between the building and fire codes on the application of this issue. In reviewing situations that could occur the FMCAP discovered some absurd ramifications in the strict application of this section as written.

In the first situation a lack of solid core doors could be cited by a fire Inspector pursuant to this section of the MSFC. The owner could obtain a building permit to repair this condition and actually make no physical repairs as long as a door is of smoke tight construction. This would meet the requirements of the State Building Code.

In a second scenario a literal interpretation of this section would require a self-closing solid core door even though the walls could be constructed of a chain-link fence. It was the consensus opinion of the FMCAP members that this issue needed to be rectified or corrected.

Question #7: Are smoke dampers required?

This issue was discussed extensively along with question #6 above. In reviewing the fire and building code requirements, FMCAP members were unable to find any code requirements mandating smoke dampers, even though smoke dampers would be consistent with the intent of having these rooms of smoke tight construction.

Question #8: Is it intended that the MSFC apply to both R-3 occupancies and the property around those buildings?

The FMCAP reviewed the MSFC and noted a number of references to R-3 occupancies. FMCAP members also reviewed the scope and applicability of the MSFC and noted that there were no exceptions that seem to exempt R-3 occupancies. To the contrary, FMCAP members noted several instances where R-3 occupancies were specifically mentioned either in the requirements or as exceptions to certain requirements.

The following are some examples where the MSFC addresses R-3 occupancies:

Section 307.5, Exception #1,
Section 503.1.1, Exception #3,
Section 508.5.1, Exception #1,
Section 603.4,
Section 603.4, Exception,
Table 806.3,
Section 903.2.12, Title,
Section 903.2.12, Exception,
Section 903.3.1.3,
Section 905.3, Exception,
Section 906.1, Exception #4,
Section 907.2.10.1.2
Section 907.2.10.3
Section 1001.1, Exception,
Section 1003.2.10.1, Exception #3,
Section 1003.2.11, Exception #3,
Section 1003.2.12.1, Exception
Section 1003.3.1.1, Exception #1,
Section 1003.3.1.2, Exception #3,
Section 1003.3.1.4, Exception #1,
Section 1003.3.1.5, Exception,
Section 1003.3.1.7, Exceptions 2 and 3,
Section 1003.3.1.8, Exception #4,
Section 1003.3.3.3, Exception #5,
Section 1003.3.3.5.2,
Section 1003.3.3.7, Exception,
Section 1003.3.3.11, Exception #4,
Section 1009.1,
Table 1010.17.2.

Since the code addressed Group R-3 occupancies in so many locations within the document, it was the consensus opinion of the FMCAP that the MSFC was intended to apply to these occupancies.

Question #9: MSFC Section 508.1 requires approve water supplies in certain situations. What does “or moved into or within the jurisdiction” mean? Specifically, does “or within the jurisdiction” apply to buildings that are moved or all buildings within the jurisdiction?

The FMCAP unanimously agreed that this Section applies to situations where buildings are “moved within the jurisdiction” not located “within the jurisdiction”. It is not intended to be applied retroactively to existing buildings.